Operating System
Bull DPS 7000

GCOS 7-V9 Release Notes

Subject:

These Release Notes describe the new features/products and the modifications/improvements brought by GCOS 7-V9. The Release Notes also include a list of GCOS 7-V9 manuals.

Special Instructions:

Rev01 of this manual is valid for users of GCOS 7-V9 TS 9764. Rev00 remains valid for users of GCOS 7-V9 TS 9662.

The GCOS 7-V8 Release Notes (reference 47 A2 24UG) remains valid for users of GCOS 7-V8 TS 8458 and TS 8560.

Software Supported:

GCOS 7-V9 TA TS 9764

Software/Hardware required:

Date:

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47 A2 27UG Rev01

Preface

Scope and Objectives

The main feature of the GCOS 7-V9 release is the support of the new DPS 7000/TA platforms.

This document (reference 47 A2 27UG) replaces the *GCOS 7-V8 Release Notes* (reference 47 A2 24UG) which covers GCOS 7-V8 TS 8458 and TS 8560.

It is a summary-type document. References to other manuals are supplied frequently for those readers who wish to develop a subject fully.

Intended Readers

This manual is intended to inform GCOS 7 users of the new functions or products introduced with Release V9.

This manual provides information on new products for users moving from GCOS 7-V8 to GCOS 7-V9.

Structure

Chapter 1	Introduces GCOS 7-V9 and gives an overview of the new features introduced.
Chapter 2	Describes the principal new products of GCOS 7-V9.
Chapter 3	Describes those products existing in previous Releases which are improved or modified in GCOS 7-V9.
Chapter 4	Lists the GCOS 7-V9 User Documentation sets.
Appendix A	Lists the GCOS 7-V9 configuration limits.
Appendix B	Gives the corresponding SERs associated to a GCOS 7 Technical Status.

Bibliography

All the GCOS 7-V9 documents are listed in Chapter 4.

The whole GCOS 7-V9 documentation set is available on paper and on Compact Disk with the Bull CD-DOC product by subscription or through a specific Marketing Identifier (MI).

It is possible to choose:

- paper only documentation, or
- paper plus CD-DOC documentation, or
- CD-DOC documentation only.

The CD-DOC documentation is regularly updated, and corresponds to the paper documentation. As software evolution and corrections give rise to addenda and/or revisions on paper, these updates are included in new CD-DOC compact disks sent automatically to CD-DOC subscribers.

Documentation:

Consulting User Documentation on CD-ROM..... *00 X2 06LE*

The reference number of the CD itself is:

GCOS 7 CD..... *47 X2 57TN*

The CD-DOC is now available for workgroups on Local Area Networks (LANs). Up to 10 users can consult it simultaneously.

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1. Introduction

This chapter introduces the visibility changes brought by GCOS 7-V9 (TS 9662 and TS 9764) compared to GCOS 7-V8 (TS 8560). You should read it to help avoid problems when moving to GCOS 7-V9 TS 9764.

For visibility changes with respect to earlier GCOS 7 releases, refer to the *GCOS 7-V9 Evolution Guide* (47 A2 28UG Rev01).

1.1 Relation With Previous Technical Statuses

Note that:

- TS 7560 was the last Technical Status of GCOS 7-V7 AP/HPS.
- TS 8560 was the last Technical Status of GCOS 7-V8 EXMS.
- TS 9662 was the first Technical Status of GCOS 7-V9 TA (Twin Architecture). All GCOS 7 EXMS systems can run GCOS 7-V9 TA.

1.2 V9 Objectives

GCOS 7-V9 TA has the following major objectives.

1.2.1 To Support the Twin Architecture of the New DPS 7000/TA Series

This includes:

- GCOS 7 processors and OPEN processors, up to 24 in total
- GCOS 7 CDPs and OPEN CDPs, up to 8 in total
- Optimized OPEN processors
- Multi-domain capability for OPEN 7
- New GCOS 7 function: TDS-Web

1.2.2 To Support New Extensions for Interoperability

This includes:

- TDS-Web (see Section 2.2 *TDS-Web*)
- Java Virtual Machine
- NatStar Full Capability

1.2.3 To Be Year 2000 Compliant and Year 2000 Easy to Use

This is achieved by incorporating the available Year 2000 tools (with their current evolutions).

These tools are for tests before the Year 2000, and for production and corrections beyond the Year 2000.

1.2.4 To Be EURO Ready

This is achieved by:

- providing a comprehensive support of the EURO character
- supporting all kinds of conversions with the EuroConverter product (already announced)

See Section 2.5 *Support of the EURO Character*.

1.3 Main Functions Available on DPS 7000/TA Platforms

In addition to all the features recently announced with GCOS 7-V8 TS 8560, the new release GCOS 7-V9 TA offers the following functions on DPS 7000/TA platforms.

1.3.1 Support of the Twin Architecture (Up to 24 Processors)

This new architecture introduces the possibility for the two environments (GCOS 7 and OPEN) to evolve separately while maintaining a high performance link between them.

As a first step of this differentiated evolution, the OPEN environment can now run on dedicated processors with optimized performance, different from the GCOS 7 processor performance.

1.3.2 Support of the New OPEN Processors Introduced with DPS 7000/TA

These processors can be used in an optimized way by means of the Open World function supported by OPEN 7. This can be used as a general Open Environment or can be dedicated to some specific area (FTP, Entry Web Server 7, Java, ...).

Two types of Open processors are available: OPEN processors and OPEN CDP. OPEN processors are aimed at a global usage of many OPEN 7 functions. OPEN CDP is aimed at more dedicated usage and specialization.

1.4 Functions Available on All V9 Platforms

The following functions are available for all platforms running GCOS 7 TA V9.

1.4.1 Extension of Functions Supported by CDP

Compared to GCOS 7-V8, GCOS 7-V9 brings three new FUNCTIONs which are Y2KTEST, OPEN_F1, and TDS_WEB.

The Y2KTEST function (applications using the Millennium Application Test Facility) may be connected to the STANDARD, CDP1, CDP2, or CDP3 domains when they are available.

The TDS_WEB function may be connected to the STANDARD, CDP1, CDP2, or CDP3 domains when they are available.

OPEN 7-V4 is multi-occurrence: different occurrences can run simultaneously, but all on the same domain. With GCOS 7-V9 TA, OPEN 7-V5 is also multi-domain: different occurrences can run simultaneously on different domains (on OPEN Processor and on OPEN CDP) thanks to the new OPEN_F1 function.

When running on a DPS 7000/TA, the OPEN_F1 FUNCTION is always connected to the OPENCDP domain and the OPEN7 FUNCTION is always connected to the OPENP domain. When running on a DPS 7000/MT system, these FUNCTIONs must be connected to the requested domain (CDP1, CDP2, or CDP3) by using the CONNECT_FUNCTION command. The allocation of an OPEN7 occurrence to the OPEN7 FUNCTION or to the OPEN7_F1 FUNCTION is done at the OPEN7 installation time.

The CONNECT_FUNCTION (CNFUNC), DISCONNECT_FUNCTION (DISFUNC), DISPLAY_FUNCTION (DFUNC) commands have been modified to reflect these new features.

1.4.2 Comprehensive Year 2000 Support

The options for testing the Year 2000 compliance, and the tools to support 2 digit dates in files correctly beyond Year 2000, are incorporated in this new version:

- Millennium Application Test Facility (including the facility to simulate dates prior to Year 2000, for fixing application problems that may be discovered after the Year 2000)
- Millennium Test Booster (enabling the usage of CDP for testing application with the Millennium Application Test Facility, thus delivering more resources for such tests)
- Year 2000 sort
- IQS 2000 option

1.4.3 "Euro Ready" DPS 7000 System

The EURO character for the Euro currency is supported throughout the GCOS 7/DPS 7000 system.

See Section 2.5 *Support of the EURO Character*.

1.4.4 Support of Java

See Section 2.3 *Support of Java*.

1.4.5 Support of TDS-Web

See Section 2.2 *TDS-Web*.

1.4.6 Support of NatStar™ for GCOS 7

See Section 2.4 *Support of NatStar ™ for GCOS 7*.

1.5 GCOS 7-V9 Hardware Compatibility

The DPS 7000 platforms that support GCOS 7-V9 are:

- The new DPS 7000/TA series,
- The DPS 7000/MTxx series,
- The DPS 7000/4x5 series,
- The DPS 7000/8xx series.
- The DPS 7000/Cx0 series,
- The DPS 7000/Dx0 series.
- The DPS 7000/Mx0 series.

See Section 2.1 *DPS 7000 Platforms for GCOS 7-V9*.

GCOS 7-V9 TS 9764 may be installed on any system belonging to the list of models supported (see the list above) and running under any Technical Status of GCOS 7 EXMS.

The system disks must be FSA type disks.

Memory Requirements

All the systems that support GCOS 7-V9 are delivered with at least 64 Mbytes of main memory which is mandatory to run GCOS 7-V9 TS 9764 and the associated user applications. This minimum main memory of 64 Mbytes does not include the main memory needed for OPEN 7 and the I/O cache (also called LMC: Large Memory Cache).

2. Platforms, New Products and Functions

This chapter describes:

- the DPS 7000 platforms that support GCOS 7-V9.
- the functions introduced by GCOS 7-V9.

2.1 Support of the New DPS 7000/TA Models

GCOS 7-V9 is specifically adapted to support the new DPS 7000/TA models. With these models, the different processors are split between four different execution domains. Each domain is assigned statically or dynamically to a so-called “function”. Each GCOS 7 and INTEROPERABILITY 7 component code is attached to a determined function.

Depending on the DPS 7000/TA configuration option, the four available domains are:

- STANDARD
- CDP1
- CDP2
- OPENP

or:

- STANDARD
- CDP1
- OPENCDP
- OPENP

Two new functions have been implemented: OPEN_F1 and TDS_WEB. The Y2KTEST function delivered with the Millennium Application Booster additional component is integrated in GCOS 7-V9. Other privileged functions (SYSTEM, ORACLE, OPEN 7, DW7, and IQS) are maintained.

The following rules apply when running on a DPS 7000/TA model:

1. The STANDARD domain may be used by all functions except OPEN7 and OPEN7_F1.
2. The CDP1 domain may be used by one or several dedicated functions except OPEN7 and OPEN_F1.
3. The CDP2 domain (when available) may be used by one dedicated function except OPEN7 and OPEN7_F1.
4. The OPENP domain is dedicated to the OPEN7 function.
5. The OPENCDP domain (when available) is dedicated to the OPEN7_F1 function.

The allocation of an OPEN 7 occurrence to the OPEN7 function or to the OPEN_F1 function is done at the OPEN 7 installation-time.

When running on a DPS 7000/MT model, all functions including the OPEN7 and OPEN7_F1 functions may be connected to one of the existing domains (CDP1, CDP2, or CDP3).

When running on the other DPS 7000 models, where the notion of function does not exist, any product able to run on a co-processor will execute on the model-dependant co-processor(s):

- HRP or X-HRP on a DPS 7000/4x5
- X-HRP on a DPS 7000/8xx
- PSP on a DPS 7000/Cx0/Dx0/Mx0

The CONNECT_FUNCTION (CNFUNC), DISCONNECT_FUNCTION (DISFUNC), DISPLAY_FUNCTION (DFUNC) commands have been modified to reflect these new features.

For more details, see the:

System Operator's Guide 47 A2 53US Rev02

2.2 TDS-Web

GCOS 7-V9 brings the support of the new Transactional offer which allows for developing transactions able to converse with universal HTML presentation end-user stations. These stations access the GCOS 7 Transactional application using a standard browser connected to the INTERNET or to an INTRANET network.

Note that the conversion HTTP/DSA protocol is achieved by an HTTP/DSA Gateway located in a MainWay Communication processor.

The main features of the TDS-Web component are:

- A set of HELPER Routines that may be used to process HTTP requests and answers in the user transactions.
- An IDS/II Database that stores all the HTML pages used in the user transactions (HTML Template Database).
- A batch utility and a service transaction that is to be used to load the HTML Template Database created by a standard HTML Editor.

The HTML Transactions may be mixed in an existing Transactional Application or included in a dedicated TDS-Web Transactional application. This latter case is mandatory if you want this application to execute in the TDS_WEB function attached to a particular privileged execution domain.

TDS_WEB is a new function able to run on GCOS 7 CDP (not on OPEN processors), in addition to the existing functions. It can also run on a PSP/X-HRP/CDP for older platforms.

A dedicated TDS-Web transactional application is generated by the addition of a:

```
USE TDS-SPECIALIZED-WEB7
```

clause in the TP7GEN generation utility.

In this case, only access from a browser will be allowed. All other connection attempts (except a master connection) will be rejected.

This product requires the Marketing Identifier TPDD026-0000 to be validated on the system. There is no need to order the DBM/II Data Base Manager (IDS/II).

Usage of the product, including application programming, is described in the:

TDS-Web for GCOS 7 User's Guide *47 A2 39UT Rev01*

2.3 Support of Java

Java is a new standard in the Open World for application portability and also for developing new applications.

GCOS 7-V9 TA introduces a first version of the Java Virtual Machine, able to run on the ARTEMIS 2 Open processors.

Java is available only with GCOS 7-V9 TA.

For more details, see the:

JAVA 7 User's Guide.....*47 A2 38UT Rev00*

2.4 Support of NatStar™ for GCOS 7

NatStar™ for GCOS 7 integrates GCOS 7 systems into the open systems environment. NatStar™ for GCOS 7 supports a client/server environment in which GCOS 7 systems act as servers for client applications that run on PCs or UNIX workstations. NatStar™ for GCOS 7 is a joint development of Bull and Nat Systems. NatStar™ for GCOS 7 extends the application-development toolset supplied by Nat Systems to include support for server applications that run under TDS on GCOS 7.

NatStar™ for GCOS 7 simplifies the implementation of client/server applications through the use of NatStar™ for GCOS 7, the Nat Systems development environment. NatStar consists of visually oriented second-generation application-development tools that can operate on either a PC or a UNIX workstation.

First-generation application-development toolsets focused on the client side of client/server applications, and assumed that the server side would be developed using conventional methods. In contrast, NatStar allows you to develop *both* the GUI-based client side *and* the associated GCOS 7-based server side of the client/server application at the same time, using the same tools and methods. Another benefit of NatStar is that it automatically generates the software required to manage interactions between the client and the server.

For more details, see the:

NatStar on GCOS 7 ..... *47 A2 90US Rev01*

2.5 Support of the EURO Character

GCOS 7-V9 TS 9764 includes all modifications to ensure a correct processing of the EURO character. This covers the translation from/to the GCOS 7 world to the internal EBCDIC code and the correct transportation of this character through all components of GCOS 7.

To obtain more information on the possibility to input or print the EURO character with your hardware, please contact your Bull representative.

2.5.1 EURO Character Codification

It is assumed that the ASCII representation of the EURO character follows the ISO 8859-15 (LATIN 9) standard defining the EURO character as the hexadecimal value “A4” (8-bit ASCII). The GCOS 7 internal representation follows the D.011 (DSA 111) Bull standard assigning the hexadecimal value “9F” to the EURO character representation.

2.5.2 Entering the EURO Character

The input terminal (or Affinity emulator) must be adapted so that it is able to generate the EURO character. For the availability of this feature, check with your terminal provider. Some GCOS 7 components offer the possibility to enter a character that does not have a corresponding key on the keyboard by entering a numeric representation of the character. For example, in COBOL the EURO character can be entered either in hexadecimal format as “9F” or in decimal format as “160”.

2.5.3 Printing the EURO Character

Depending on the printer type, it is necessary to establish a correspondence between the internal EURO character representation (EBCDIC “9F”) and the position of the EURO character on the printing belt or belt image when it exists.

Four KPRU images (EQ, ES, ER, and ET) are delivered in the UREXT member of the SYS.HSLLIB library to replace the existing images (JQ, JS, JR, and JT) when printing the EURO character on a PR90 type printer.

2.5.4 The CURRENCY SIGN COBOL Clause

The EURO character can be specified as any other character in this clause which gives the possibility to define a “CURRENCY SIGN” character which can be part of a COBOL field description (PICTURE). If no EURO character is available on your keyboard to specify this character as the currency sign, you can use the hexadecimal or the decimal representation. However, when you want to include this character in a field description (PICTURE), you must use the text editor feature available to enter the hexadecimal representation of the character. With the GCOS 7 text editor (ED), you have to type in PIC [X9FZZZ9.99 for example.

2.6 DPS 7000 Series that Support GCOS 7-V9

The DPS 7000 series that support GCOS 7-V9 are:

- The DPS 7000/TA series,
- The DPS 7000/MTxx series,
- The DPS 7000/4x5 series,
- The DPS 7000/8xx series.
- The DPS 7000/Cx0 series,
- The DPS 7000/Dx0 series.
- The DPS 7000/Mx0 series.

The system disks must be FSA type disks.

Memory Requirements

All the systems that support GCOS 7-V9 are delivered with at least 64 Mbytes of main memory which is mandatory to run GCOS 7-V9 TS 9764 and the associated user applications. This minimum main memory of 64 Mbytes does not include the main memory needed for OPEN 7 and the I/O cache (also called LMC: Large Memory Cache).

2.6.1 Bull DPS 7000/TA Series

2.6.1.1 Hardware Characteristics

The main hardware characteristics of the **Bull DPS 7000/TA** series can be summarized as follows:

- Twin Architecture based on GCOS 7 and OPEN processors,
- Two processor types in both GCOS 7 and OPEN worlds: general purpose processor and customer dedicated processor (CDP),
- Model dependant power for GCOS 7 processors,
- High performance OPEN processors for all models,
- “High Availability” and “Compact” versions of each model,
- Top-of-the-range model based on 24 general-purpose GCOS 7 processors,
- State-of-the-art peripheral offer which is connectable to open systems as well.

2.6.1.2 GCOS 7 Processor Offer

The “GCOS Processor” offer is defined as follows:

- General-purpose GCOS 7 processor, called simply “**GCOS 7 Processor**”.
- There are two types of GCOS 7 customer dedicated processor (CDP). These are **GCOS 7 CDP-1** and **GCOS 7 CDP-2**.
- GCOS 7 CDP entitled functions are **GCOS 7 System**, **Oracle**, **IQS**, **DW 7**, applications using the “**Millennium Application Test Facility**”, and **TDS-Web** (TDS with HTML presentation only).
- **GCOS 7 CDP-1** can be used as **mono-function** or **multi-function** processor. It brings additional processing power for all or a subset of the entitled functions.
- **GCOS 7 CDP-2** is a **mono-function** processor. It brings additional processing power for a function selected among the entitled ones.
- GCOS 7 processors and GCOS 7 CDPs have the **same mono-processor power** on a given model.

2.6.1.3 OPEN Processor Offer

The “OPEN Processor” offer is defined as follows:

- General-purpose OPEN processor called simply “**OPEN Processor**”. An **OPEN Processor** entitled function is a **general-purpose OPEN 7**, that is, all OPEN 7 functions and interoperability products which utilize OPEN 7, such as, **JAVA Virtual Machine**, Entry Web Server 7, ftp, telnet server, etc. will be able to use OPEN Processors.
- There is only one type of OPEN customer dedicated processor: **OPEN CDP**. The **OPEN CDP** entitled function is a **special-purpose OPEN 7**, that is, customers can dedicate one occurrence of OPEN 7 to one or several OPEN 7 functions and interoperability products utilizing OPEN 7.
- OPEN Processors and OPEN CDPs are mono-function processors.
- OPEN Processors and OPEN CDPs have the same high performance mono-processor power on all models, since they are intended for power consuming applications of the OPEN world.

The software co-requisites are GCOS 7-TA/V9 release (TS 9662 and up) and OPEN 7 V5.

2.6.1.4 Peripheral Offer

The following peripheral subsystems can be present on Bull DPS 7000/TA systems:

Disk Subsystems

- LSS (1, 2, and 3),
- CDA 7 SYM3 & SYM4 (currently supported configurations),
- SDA 7 (5 & 11.5 GB).

Cartridge Tape Subsystems

- CTS 4800 (CMTS),
- CTS 6510 (STK4780),
- STK 4490 (Silverton/36 tracks),
- CTSD020 (STK 4280/18 tracks),
- TwinPeaks (STK 4890/36 tracks) stand alone & autoloader,
- PowerSave (2AI/DLT 4000) stand-alone & autoloader.

Cartridge Tape Libraries

- PowderHorn based on STK4780/4490,
- WolfCreek based on STK4780/4490,
- TimberWolf based on TwinPeaks,
- PowderHorn based on TimberLine (STK 9490/36 tracks),
- WolfCreek based on TimberLine,
- STK 9714 & STK 9740 based on TimberLine.

Magnetic Tape Subsystems

MTC-G + Keystone

Printers

- Mathilde printers (via ISL),
- PR90,
- PR70x/80x/90x.

Communication Processors

- DN 7500/x0,
- MainWay.

Main Characteristics

- Up to 24000 users connected simultaneously in a TDS-IDS/II environment
- Up to 16000 users connected simultaneously in a TDS-ORACLE environment
- Up to 64 peripheral processors
- **Main Memory**: from 128 Megabytes (“Compact” models), or 256 Megabytes (“High Availability” models), to 1 Gigabyte on a mono-system, or 2 Gigabytes on a bi-system.

2.6.2 Bull DPS 7000/MTxx Series

These systems offer the following features:

- Up to 19200 users connected simultaneously in a TDS-IDS/II environment.
- Up to 5000 users connected simultaneously in a TDS-ORACLE environment.
- Support of storage and archival solutions, shareable with UNIX:
  - Support of 8mm-Cartridge Sequential Loader on compact models.
  - Support of TwinPeaks™ (CTSD030) 36-track Cartridge Tape Subsystem. It is an autoloader holding up to 14 cartridges, resulting in a maximum capacity of 30 Gbytes.
  - Support of CTSD020 Cartridge Tape Subsystem.
  - Support of PowderHorn™, WolfCreek™ and TimberWolf™ CTLs (Cartridge Tape Libraries).
  - Support of CTS STK 4490 36-track cartridges through a PSI/GPA/FIPS link (also known as CTS Silverton FIPS).
- Up to 8 CDPs (Customer Dedicated Processors), specialized processors to enhance system, ORACLE, OPEN 7, DataWarehouse 7, applications using the "Millennium Application Test Facility", TDS-Web (TDS with HTML presentation only), and IQS performance.
- Multiple-parallel processing.
- Up to 64 peripheral processors.
- UNIX Ally Servers.
- Fully redundant configurations (models MT42, MT52, MT62 to MT96).
- Very high reliability and availability.
- From 128 Megabytes (compact models) or 256 Megabytes (redundant models) to 1 Gigabyte of main memory on a mono-system.
- From 256 Megabytes to 2 Gigabytes of main memory on a bi-system.
- From 1 to 24 processors (up to 6 CPU boards) with a maximum of 16 Generalized Processors and a maximum of 8 CDPs (Customer Dedicated Processors).

2.6.3 Bull DPS 7000/4x5 Series

The Bull DPS 7000/4x5 models offer the following features:

- Support of up to 1000 users in a TDS-IDS/II environment.
- Support of up to 500 users in a TDS-ORACLE environment.
- Support of up to 24 (9 for model 415) integrated 2.5 Gigabyte disks (2.1 Gigabyte when formatted).
- Support of Cartridge-8mm Sequential Loader.
- Support of CTSD020 Cartridge Tape Subsystem.
- Support of PowderHorn™, WolfCreek™ and TimberWolf™ CTLs Cartridge Tape Libraries).
- Support of CTS STK 4490 36-track cartridges through a PSI/GPA/FIPS link (also known as CTS Silverton FIPS).
- Simple on-site evolution from existing Bull DPS 7000/4x0 models (these do not support GCOS 7-V9).
- Simple on-site upgrade between Bull DPS 7000/4x5 models.
- X-HRP specialized processor (to enhance ORACLE, OPEN 7, applications using the “Millennium Application Test Facility”, and DW7 performance) is available as an option.
- From 64 Megabytes to 256 Megabytes of main memory.
- 1 to 3 processors including up to one X-HRP.

2.6.4 Bull DPS 7000/Cx0 Series

The Bull DPS 7000/Cx0 models offer the following features:

- Support of up to 1000 users in a TDS-IDS/II environment.
- Support of up to 1000 users in a TDS-ORACLE environment with 2 PSPs (Parallel Specialized Processors).
- Support of up to 24 integrated 2.5 Gigabyte disks (2.1 Gigabyte when formatted).
- Support of Cartridge-8mm Sequential Loader.
- Support of CTSD020 Cartridge Tape Subsystem.
- Support of PowderHorn™, WolfCreek™ and TimberWolf™ CTLs (Cartridge Tape Libraries).
- Support of CTS STK 4490 36-track cartridges through a PSI/GPA/FIPS link (also known as CTS Silverton FIPS).
- From 64 Megabytes to 256 Megabytes of main memory.
- 1 to 3 processors including up to 2 PSPs (Parallel Specialized Processors) (to enhance system, ORACLE, OPEN 7, DW7, applications using the “Millennium Application Test Facility”, and TDS-Web applications).

2.6.5 Bull DPS 7000/8xx/Dx0/Mx0 Series

These systems offer the following features:

- Up to 9600 users connected simultaneously in a TDS-IDS/II environment.
- Up to 4040 users connected simultaneously in a TDS-ORACLE environment with a Back End Server.
- Support of 8mm-Cartridge Sequential Loader.
- Support of CTSD020 Cartridge Tape Subsystem.
- Support of PowderHorn™, WolfCreek™ and TimberWolf™ CTLs (Cartridge Tape Libraries).
- Support of CTS STK 4490 36-track cartridges through a PSI/GPA/FIPS link (also known as CTS Silverton FIPS).
- Back-End Server providing very high throughput for ORACLE, OPEN 7, applications using the “Millennium Application Test Facility”, and DW7 applications (exclusive with X-HRP or PSP) as an option on the Bull DPS 7000/8xx/Mx0 models.
- Specialized processors (to enhance ORACLE, OPEN 7, applications using the “Millennium Application Test Facility”, and DW7 performance) available as an option:
  - for a DPS 7000/8xx, up to 2 X-HRPs
  - for a DPS 7000/Dx0, up to 2 PSPs (+ system and TDS-Web applications)
  - for a DPS 7000/Mx0, up to 8 PSPs (+ system and TDS-Web applications)
- Multiple-parallel processing.
- Up to 64 peripheral processors.
- UNIX Ally Servers.
- Fully redundant configurations (except DPS 7000/8xxS and DPS 7000/Dx0).
- Very high reliability and availability.
- From 128 Megabytes to 1 Gigabyte of main memory on a mono-system.
- From 128 Megabytes to 2 Gigabytes of main memory on a bi-system.
- Support of dedicated I/O Cache Memory (from 256 Megabytes to 1 Gigabyte).
- From 1 to 12 processors (up to 3 CPU boards) with a maximum of 6 generalized processors on a DPS 7000/8xx, 8 generalized processors on a DPS 7000/Mx0, a maximum of 6 X-HRPs on a DPS 7000/8xx and 8 PSPs on a DPS 7000/Mx0.

3. Modified Products and Functions

This chapter describes some of the products and functions that have been modified in GCOS 7-V9 (either TS 9662 or TS 9764).

For full details of modifications, refer to the Customer Service Bulletin that accompanies the delivery of the Technical Status.

The SCR number in brackets identifies a modification introduced in answer to an SCR (System Change Request) after the description of the modification.

Some modifications answering an SCR have not been described; but all SCRs addressed by a Technical Status are listed in the appropriate section.

For a list of SCRs answered by GCOS 7-V9, see Section 3.9 *GCOS 7 Software Improvement Requests.*

3.1 Products and Functions Modified by GCOS 7-V9 TS 9662

The modified are listed below under the following titles:

- Catalog Management
- Dump Save Utility Improvements
- File Management and Utilities
- File Transfer
- GCL
- Job Management Improvements
- Resource Management (ARM)
- Journal Management Improvement
- Millennium Application Test Facility
- RDDF 7-V2.3
- TDS
- Volume Management and Utilities

3.1.1 Catalog Management

Job Class Extension Support

The catalog management has been improved to support the two character job classes.

A job always runs in a class that is one of the classes defined at system configuration time. These classes are identified by one or two alphanumerical characters ranging from A to Z and from AA to ZZ. Up to now specification of classes in the catalog to link projects to a given class (or list of classes) was restricted to a one-character class. This TS brings the possibility to specify two character classes in the CREATE_PROJECT (CRP), the MODIFY_PROJECT (MDP) and the LIST_PROJECT (LSP) commands of the MAINTAIN_CATALOG (CATMAINT) utility. The * character may be used in place of one alphanumerical character to specify any valid characters.

JOBCLASS = *	is equivalent to JOBCLASS = (A,B, ..., X,Y,Z)
JOBCLASS = *B	is equivalent to JOBCLASS = (AB,BB,CB, ..., XB,YB,ZB)
JOBCLASS = (*,**)	specifies all available classes from A to Z and from AA to ZZ

With this improvement, the number of job classes that may be specified in the catalog is increased from 26 to 702.

Remember that the first class specified in a CRP or MDP command is the default class of the project for batch jobs and the second class specified is the default class of the project for IOF jobs. If no explicit classes are defined for a project, the P class is the default for batch jobs and the Q class is the default for IOF jobs.

If two character classes are introduced in a catalog with TS 9662, this catalog remains usable with a previous Technical Status but only one character will be taken in account.

For more details, refer to the:

Catalog Management User's Guide 47 A2 35UF Rev04

3.1.2 Dump Save Utility Improvements

A new parameter (KEEP) has been implemented in the EXECUTE_DP_SAVE command (DP_SAVE, DPSV) to request that the JOR, LOG and binary dumps of OPEN7 be kept in the library at the end of the utility execution in the OPEN7_CRASH or the OTHER_PROBLEM context. Therefore, it is the responsibility of the System Administrator to avoid possible library overflows by deleting these objects.

3.1.3 File Management and Utilities

3.1.3.1 DSL Extensions

The Data Service Language (DSL), which may be used in the logical level Data Management Utilities (CREATE, COMPARE, and PRINT) to select and modify records from the input file depending on the contents of this file, has been improved to extend its selection and modification capabilities.

The DSL input deck can now include several RECORD paragraphs. As in the previous revisions, a RECORD paragraph may consist of a set of INCLUDE commands OR a set of OMIT commands AND one ARRANGE statement applying to the selected records.

The possibility to have several RECORD paragraphs gives the ability to select and modify input records with different criteria on the same record fields.

For example, you can have a first RECORD paragraph with an INCLUDE statement selecting all records with a value greater than or equal to "61" in positions 2 and 3 of the input record, and generate an output record with the constant value "19" in positions 2 and 3, followed by the end of the record. A second RECORD paragraph will select all records with a value smaller than "61" in positions 2 and 3, and will generate a record with the value "20" in position 2 and 3.

```
RECORD:
     INCLUDE = (2,2) GE "61"
     ARRANGE = (1,1) , "19", (2,n)
RECORD:
     INCLUDE = (2,2) LT "61"
     ARRANGE = (1,1) , "20", (2,n)
END:
```

Though these DSL extensions have been designed mainly to ease transformation of files required by the Year 2000 event, their scope is obviously not limited to that case.

With the same objective, the ARRANGE statement has been improved to support the possibility to add or subtract a binary or decimal value in the specified fields.

Thus, the following statement:

```
ARRANGE = (10,2) ADD SBIN '1900'
```

will add, to all selected records, the binary value '1900' to the binary value of the two-character field starting at the tenth character from the beginning of these records. A new type of data declaration has also been implemented to describe a decimal field in display mode (same as UDEC without a sign in the rightmost position).

The possible size of the DSL input deck has been multiplied by two.

For more details, refer to the:

Data Management Utilities User's Guide .....47 A2 34UF Rev 04

3.1.3.2 Multi-File Tape Processing Improvements

The keyword FORCE has been implemented in the DELETE_EMPTY_MEDIA GCL command to ease the update of the SITE.MFT files in the following cases:

- When an existing 36-Track volume is formatted into an 18 Track volume.
- If a media has been modified on another system.

The syntax becomes:

```
{ DELETE_EMPTY_MEDIA | DLMD }
      { MEDIA | MD } = volume-18ch
      [ FORCE = { 0 | 1 } ]
```

When a file deletion is requested with a CATONLY option (in DELETE_FILE or DELETE_FILESET), this status is recorded in the SITE.MFT. If an LS command is issued in the MNMFT processor, the following new message indicates this status:

```
FILE HAS BEEN DELETED FROM CATALOG
```

The file is always accessible on the media (providing that the media has not been reformatted). It can be re-cataloged manually and re-used in READ or WRITE mode. The attribute "delete catonly" is only reset when the file is opened in OUTPUT or APPEND mode.

If a file is not closed when the DLF CATONLY is performed, the relations are removed from the SITE.MFT file.

For more details, refer to the:

MFT User's and Administrator's Guide .....47 A2 38UF Rev 02

3.1.3.3 File Access Performance Improvement

The access mechanism to the Volume Table Of Content has been improved, to reduce the time to access one file entry, and to avoid the overhead introduced by access conflicts.

The elapsed time to read the VTOC of a volume containing 5000 files is divided by a factor ranging from 2.5 to 35 depending on its environment (shared or not shared) and the access contention.

3.1.3.4 File Access Information Availability

The display of cataloged files' information has been improved to display information stored at the last OPEN of the file in OUTPUT mode by a COBOL program. This information is retrieved from the different clauses of the COBOL program.

These are:

```
FILE ORGANIZATION
CODE SET & COLLATING SEQUENCE
PADDING CHARACTER or NO PADDING
MINIMUM & MAXIMUM RECORD SIZE
BLOCKSIZE & BLOCK STATUS
FILE POSITION
RECORD FORMAT
RECORD DELIMITER
HEADER TYPE (SSF,SARF or ASA)
PRIMARY KEY SIZE and LOCATION
ALTERNATE KEYS NUMBER, SIZE and LOCATION
NAME OF THE LAST ACCESSING COBOL PROGRAM
DATE & TIME OF THE LAST OUTPUT OPEN OF THE FILE
```

This information is displayed by all utilities that already display file information, such as: LIST_FILE, LIST_CATALOG, LIST_FILESET, etc., whenever the CONTROL or ALL option is specified.

If the utility used is a catalog utility, and an OUTFILE is specified, this information is stored in two new types of record in the specified output file. The GPL primitives H_DCOUTFCOB and H_DCOUTCOBX and their equivalent COBOL COPY members have been included in the system libraries.

Note that this information is updated only when a COBOL program accesses the files.

For more details, refer to the:

Data Management Utilities User's Guide .....47 A2 34UF Rev 04

3.1.4 File Transfer

Subfile DELETE Parameter

It is possible to request the deletion of a subfile after the successful completion of its transfer via EFTR.

This is achieved by adding the parameter DELETE in the:

- ENTER_FILETRANS_REQ (EFTR) command,
- ENTER_LIBTRANS_REQ (ELTR) command,
- EXECUTE_FILE_TRANSFER (EXFT) command,
- or in the FILTFR JCL.

If the CONFIRM parameter is active in the submitter's user profile, then confirmation of the deletion will be requested.

An additional byte has been taken from the RFU area of the programmatic interface structure, to specify if the DELETE action is requested (1) or not (0) in the case of a COBOL file transfer request (H_NP_USUBFT).

For more details, refer to the:

UFT User's Guide .....*47 A2 13UC Rev 06*
DJP User's Guide.....*47 A2 14UC Rev 05*

3.1.5 GCL

3.1.5.1 #PAGETOP GCL Variable

A new GCL variable has been implemented to control the skip to the top of the next screen generated by most of the File and Volume Management Utilities.

This variable #PAGETOP is managed through the profile command set (MODIFY_PROFILE and DISPLAY_PROFILE).

When they are used interactively, File and Volume Management utilities use this variable to generate or not generate skips to the next screen. When set to 0, no skip will be generated. When set to 1 (default value), skips to the next screen will be generated as they are with TS 8560 and before. Note that some utilities that do not generate a skip to the next screen (like LIST_FILE with CATONLY) are not affected by this new variable.

3.1.5.2 GCL Command Display Improvement

It is now possible to answer a prompt request with a question mark, followed by an expression including strings of characters and asterisks, to request the display of menus including all commands that satisfy the requested criteria.

For example, typing in: ?BUILD_*, will return a screen with:

```
BUILD_FCP_CONFIG .......
BUILD_FILE .............
BUILD_LIBRARY...........
BUILD_SYSTEM............
```

The full names of the commands are searched, the ALIASes are not searched.

This is just an information menu. The commands displayed **cannot be** launched from this menu as they can be from the main menu.

This function is not available when NOVICE and MENU are set to 0. It is also not available with processors that manage their own commands (IQS and ED, for example).

For more details, refer to the:

IOF Terminal User's Reference Manual - Part 1 ..... 47 A2 38UJ Rev 05

3.1.6 Job Management Improvements

3.1.6.1 JOR Printing Requests

Printing of JORs (Job Occurrence Reports) is now restricted to the users for whom the jobs were submitted.

Requests to print a JOR belonging to another user will be rejected with the message:

```
PRINTJOR: ILLEGAL ACCESS TO JOR
```

However, users of the SYSADMIN project, or users that have the MAIN Operator attribute, can still print such JORs.

3.1.6.2 Display of Assigned Files

A new parameter has been added to the DISPLAY_ASSIGNED_FILES (DASGF) command, to display the status of a file referred to by its External File Name (EFN). A new keyword - EFN - which is mutually exclusive with the RON keyword, may be used to display the list of the RON of the jobs that have assigned or consigned the file whose EFN is specified.

The syntax of the modified command is:

```
{ DISPLAY_ASSIGNED_FILES }
{ DASGF                  }

      { RON = Xnnnn | EFN = { char44 } }

      [ { DETAILED }             ]
      [ {          }=  ( 0 | 1 ) ]
      [ { DTLD     }  =          ]
```

When the RON parameter is specified, a SYSADMIN or an OPERATOR user can use this command with any job. With all other projects, a user has the visibility of the job submitted by himself/herself only. The command applies only to jobs in execution.

With the EFN parameter, a SYSADMIN or an OPERATOR user can only use the command.

For more details, refer to the:

IOF Terminal User's Reference Manual - Part 3 ..... 47 A2 40UJ Rev 05
System Operator's Guide ..... 47 A2 53US Rev 02

3.1.7 Resource Management (ARM)

There is a print out on the Operator console of new ARM (Automatic Resource Manager) messages when significant transitions in resource usage by the system are reached.

```
AR12  WARNING: SYSTEM ENTERS NORMAL USE
AR12  SYSTEM BECOMES UNDERUSED
```

Overuse of the system is already notified to the operator via the thrashing mode message.

Refer to the *ARM User's Guide* (47 A2 11US Rev04).

3.1.8 Journal Management Improvement

Multi-File ROLLFORWARD Extension

GCOS 7-V9 TS 9662 introduced the possibility to rollforward up to 99 files simultaneously. This possibility is offered only in JCL. The GCL command accepts only up to 25 files as in the previous Technical Status.

In JCL, the syntax is:

```
ROLLFWD OUTFILES=(efn1,efn2, …, efn99) [BEGDATE …];
```

If more than 99 files are specified, the JCL translation aborts with a "FATAL ILLEGAL KEYWORD" message.

Refer to the *File Recovery Facilities User's Guide* (47 A2 37UF Rev05).

3.1.9 Millennium Application Test Facility

The former Marketing Identifiers:

- UTSD024 (Millennium Application Test Facility)
- UTSD022 (Millennium Test Booster – LR)
- UTSD023 (Millennium Test Booster – HR)

are now automatically validated with GCOS 7-V9.

3.1.9.1 Pre-Dating Feature

It is now possible to use the Millennium Application Test Facility with a date/hour earlier than the current date/hour. This date/hour must be earlier by at least 24 hours. The Display_Private_Timer command is consequently modified to display a «+_» or «-_» sign in front of the active date to reflect the fact that the date is posterior or anterior to the current date.

3.1.9.2 Parameter Retention

The Millennium Application Test Facility parameterization is kept from one GCOS 7 session to another in case of a WARM or a COLD restart after a normal system shutdown or a system crash.

3.1.9.3 New Error Messages

Three new error messages have been introduced to reflect some error conditions in the VALIDATE_PRIVATE_TIMER command:

```
TM59   PRIVATE TIME MUST BE SUPERIOR THAN CURRENT TIME (MINIMUM 24+1 HOURS)

TM61   PRIVATE TIME MUST BE INFERIOR THAN CURRENT TIME (MINIMUM 24 HOURS)

TM62   ILLEGAL VALUE FOR DATE (If the new date is not between 01/01/1981
       and 12/31/2060)
```

For more details, refer to the:

How to deal with Year 2000 ..... 47 A2 23UG Rev 03

3.1.9.4 Performance Improvement (Dedicated Processors Usage)

Jobs executing under the control of the Millennium Application Test Facility can take advantage of the existing dedicated processors on the system (if any has been implemented). This possibility is activated in two different ways, depending on the DPS 7000 model.

On DPS 7000/MT and DPS 7000/TA models, a new CDP oriented function Y2KTEST has been implemented. It is managed via the CONNECT_FUNCTION (CNFUNC) and DISCONNECT_FUNCTION (DISFUNC) GCL commands.

If the Y2KTEST function is connected to a given domain, all the concerned jobs will execute on the dedicated processors for this domain.

On the other supported DPS 7000s, the jobs will execute on the existing dedicated processors (HRP, X-HRP, PSP or Back End Server, depending on the DPS 7000 model).

Note that these improvements are also available with GCOS 7-V7 TS 7560 and GCOS 7-V8 TS 8560 by installing the necessary additional components delivered separately.

3.1.10 RDDF 7-V2.3

GCOS 7-V9 is delivered with RDDF 7-V2.3. As with V2.2, ORACLE users must use ORACLE7 if they want to take benefit of RDDF 7 to backup their Databases.

In addition to RDDF 7-V2.2, RDDF 7-V2.3 gives the possibility to forward data to the secondary system from the primary RDDF 7 to:

- stop the PURSUIT on the secondary system
- launch a JCL or an Absentee procedure on the secondary system (this procedure cannot be an RDDF 7 command)

For more details, refer to the:

RDDF 7-V2 Administrator's Guide ..... 47 A2 44US Rev 03

3.1.11 TDS

3.1.11.1 TDS Statistics

The statistic data generated by a TDS session is now kept after the restart of this TDS with the option REPEAT YES. This applies only if a private SYSOUT is assigned for this TDS and when this restart follows an abnormal termination of the TDS.

3.1.11.2 TDS Status Display

When a TDS is protected by SECUR'ACCESS, the command DTSTAT is authorized only to users with the SYSADMIN access rights.

Other users of this command, will receive the common statistics followed by the message:

```
NO MORE INFORMATION DISPLAYED: SECUR'ACCESS IS ACTIVE
```

3.1.11.3 CLOSE_TDS_FILE Command

If a file, for which a request to keep the currencies has been issued (CALL KEEP-CURRENCIES), is closed by the TDS Master Operator after the end of the current commitment, the next commitment will not be allowed and the transaction will be aborted with the return code IFNERR.

3.1.11.4 M-TX-ABORT-ON-BREAK Generation Clause

A new clause USE M-TX-ABORT-ON-BREAK may be specified in the TDS Section of the TDS generation statements.

When specified, this clause will cause the current Master Transaction to be aborted upon reception of a break entered by the master operator. The break transaction, if any, will not be activated.

If no master transaction is running when the break is entered, then the break transaction is activated.

The main purpose of this feature is to allow the termination of Master transactions that have been waiting for a long time for the release of locked resources to end.

3.1.11.5 TDS-HA Compatibility

If a CMSC complex controls two systems, they must be at the same Technical Status. This is true for GCOS 7-V9 TS 9662 and TS 9764. This means that if one system is updated to GCOS 7-V9, the other system must also be updated to use this facility.

3.1.11.6 Automatic Binding

A new TP7 Generation clause has been added to generate an automatic AUTOBIND statement in the TP7 linkage Step. This will cause all Compile Units to be bound in Type 2 segments up to 90% of a segment size (64K). This reduces the number of segments necessary to hold the USE PROCEDURE declared in the TDS generation.

This clause is specified by including USE LINK-WITH-AUTOBIND statement.

To help you to know the number of Type 2 segments your TDS is using, ask your Bull Customer Service representative.

For more details, refer to the:

TDS Administrator's Guide ..... *47 A2 32UT Rev 04*

3.1.12 Volume Management and Utilities

A new keyword, FAST, is now available in the JCL statement VOLLIST or in the GCL command LIST_VOLUME to run this utility without opening the files present on the volume or of the catalogs, where these files are cataloged. This considerably speeds up the execution time when a limited amount of information is wanted.

If a command, with this keyword is submitted on a system where Access Rights are active and the submitter has not the SYSADMIN attribute, the cataloged files will not be displayed.

The options CONTROL, SUBFILES, and RATIO=LIB/ALL are refused or ignored.

The USAGE options give only the information retrieved from the volume VTOC excluding all UFAS file specific information.

3.2 Products and Functions Modified by GCOS 7-V9 TS 9764

The modified are listed below under the following titles:

- Printing Date of Messages in a JOR
- Origin System and the Output Owner in Display of Redirected Output
- The GCL Command “DISPLAY_CONFIGURATION PLM=*”
- File Save
- Extension of Data Management Utilities and DSL
- TDS can use Three JASs on a Protected Site with SECUR'ACCESS
- TDS-Web
- TDS TCP/IP
- VCAM Connectivity
- Miscellaneous

3.2.1 Printing Date of Messages in a JOR

Many user jobs (TDS, automaton, ...) or system jobs (TNS, FEPS, RDDF 7, OPEN 7, DYNSAVE server, ...) can run during several days without interruption. When the JOR is printed (after job termination), it is very difficult (and sometimes impossible) to find the correct dates that the messages were issued. To solve this, for each new day, a "DATE" message will be printed (as in an IOF mailbox). For example, a message like "ISSUED ON SEPT 25, 1999" will be printed.

3.2.2 The GCL Command “DISPLAY_CONFIGURATION PLM=*”

This command gives the PLM date for each Load Module displayed:

```
16.38 DLM   H_COBOL85/SYS.HLMLIB/P-7662/CAT = 644 PAGES  99/09/22
      DLM   H_LINKER/SYS.HLMLIB/P-7662/CAT = 217 PAGES  99/09/22
      DLM   H_IOF/SYS.HLMLIB/P-7662/CAT = 52 PAGES  99/09/22
      DLM   H_WRITER/SYS.HLMLIB/P-7662/CAT = 60 PAGES  99/09/22
      DLM   H_RUN/SYS.HLMLIB/P-7662/CAT = 56 PAGES  99/09/22
      DLM   H_CATALOG/SYS.HLMLIB/P-7662/CAT = 67 PAGES  99/09/22
      DLM   H_EXECUTE/SYS.HLMLIB/P-7662/CAT = 112 PAGES  99/09/22
      DLM   H_UTILITY/SYS.HLMLIB/P-7662/CAT = 56 PAGES  99/09/22
      DLM            8 PREINITIALIZED LOAD MODULES
```

3.2.3 File Save

A message is printed on the JOR, showing the date and time at the beginning of each dynamic save:

```
JP37 SYS: TSU.PIUVRIDX
 SAVE DATE RECORDED IN THE JAS IS 16:47:18.704 SEP 23, 1999
```

3.2.4 TDS-Web

Access to the HTML pages (IDS/II database) from COBOL or C TPRs by calling two routines:

- H_WEB7_GET_HEADER,
- H_WEB7_GET_RECORD.

A new GCL command WEB7_REORG_HTMLAREA allows you to re-organise the database.

A version number is associated with each defined set of procedures.

3.2.5 TDS TCP/IP

Spawning from or to a TDS TCP/IP correspondent is allowed.

PASSTHRU is possible from a TDS TCP/IP correspondent.

A TDS TCP/IP client may supply a terminal identification that is controlled by the TDS application on the server side. The DLL version 3.0.6 is the minimum version for this feature.

A connection from a TDS TCP/IP correspondent to a TDS protected by SECUR'ACCESS (SA7) is controlled.

A break is allowed from a TDS TCP/IP correspondent. This functionality has not been announced, because it is not complete.

The TIMEOUT function is implemented in source (this already exists starting from GCOS 7-V8 TS 8560).

3.2.6 VCAM Connectivity

The connectivity of VCAM has been improved. Up to 16000 sessions are supported (corresponding to four times 4000 VCAM sessions) on an FCP 7 controller.

3.2.7 Miscellaneous

3.2.7.1 GCL

Information concerning existing domains on the platform will be displayed by the #SYSENV builtin. This information allows ISI7 to ask a pertinent question at OPEN 7 installation-time.

3.2.7.2 DUAL

- H_LOAD_FILE, H_COPY_FILE, H_SAVE_FILE, H_PRINT_FILE, H_RESTORE_FILE: alignment of functionality with H_DCMSINFO: returns RAID1 and RAIDS information via the H_MSINFO primitive in the H_DCMSINFO structure.
- Support of LINKDSET by the new non-standard primitive H_SAVE_FILESET (used by FDS7 for dynamic save).

3.2.7.3 New COBOL System Call H_CBL_UJOBINFO

A new COBOL CALL “H_CBL_UJOBINFO” allows to know the state of a JOB submitted by CALL ”H_IN_UEJR” or CALL “H_IN-ISUBMIT”

New GPL primitives H_DC_JOBINFO and H_JOBINFO allow to know the state of a JOB submitted by the GPL primitive H_SUBMIT

3.2.7.4 New GPL Primitives H_JOBINFO and H_DC_JOBINFO

These allow you to know the state of a job submitted by the primitive H_SUBMIT.

3.2.7.5 DISPY Type in SORT/MERGE

The use of the DISPY type in KEY/KEYS and/or INCLUDE/OMIT in SORT and MERGE commands allows you to sort year fields that do not contain numeric values. When their type is DISPY, these values are sorted lower than numeric values.

3.3 GCOS 7 Software Maintenance

GCOS 7-V9 TS 9764 includes all the standard GCOS 7 corrections delivered up to January 21, 1999. These corrections are either included as source corrections or as patches. The status of the updated system site corrections can be checked using the DETECT_SITE utility.

3.4 GPL Primitives

3.4.1 SDI GPL Primitive H_DCMSINFO

This SDI GPL primitive functionality is extended for H_MSINFO primitive usage which now returns RAID1 and / or RAIDS information in H_DCMSINFO structure

3.4.2 H_LOAD_FILE, H_COPY_FILE, H_SAVE_FILE, H_PRINT_FILE, H_RESTORE_FILE

These SDI GPL primitives are delivered clean for FDS7 usage.

3.4.3 Unified DSL for DATA MANAGEMENT UTILITIES and SORT / MERGE

An HEXADECIMAL chain can be extended in DSL OMIT / INCLUDE commands to 256 bytes as in SORT / MERGE comfile.

DISP data type can be now processed in Data Management Utilities comfile.

3.5 New Keyword

3.5.1 Exclude in JCL VOLLIST and in GCL LIST_VOLUME

Only the files whose name does not begin with the specified pattern are listed.

3.5.2 NCLEAR in JCL VOLREST, KEEPVTOC in GCL RESTORE_DISK

If a file exists on disk and on tape the file on disk is restored from the tape file.

If a file exists on tape and not on disk the file on disk is created from the tape file, Other disk files with no reference on tape remain not modified.

3.5.3 PRTFILE in JCL VOLREST, VOLSAVE and GCL RESTORE-DISK, SAVE_DISK

This keyword gives a chart of saved / restored files with their catalog state and information on successfull or failed SAVE or RESTORE.

3.6 Display of Redirected Output Gives its Origin

When a SYSOUT report is directed from an IOF console on a system E, towards a receiver system R

(Command MO Xnnn DEST=R), a SERVER is launched on system R and the report is declared on system E 'OUTPUT COMPLETED ON SITE R'.

On system R the command “DO <Xnnnn> “ gives for redirected outputs the complementary information ***“USER=yyyyyyy ORG_SYST=xxxx ,*** where USER is the owner of the output, and ORG_SYST is the name of the system where the output has been created

Example: system R is BCC9 , system E is BCC3 , output X255:2 created on BCC3 redirected to BCC9

```
BCC9: do jobname=server2 system=bcc9
   16.06 DO     STATION=BCC9
         DO    X400:4    R255_2   3 C PR WAIT  LINES=    256 PAGES=  8
BCC9: do x400:4
   16.06 DO    X400:4    R255_2   3 C PR WAIT  LINES=    256 PAGES=  8  USER
=TSU  ORG_SYST=BCC3   BCC9  DEVCLASS=PR/H136 MEDIA=I10000
```

3.7 Option FOR=LINE in GCL LOG

The new value LINE for keyword FOR of GCL command LOG allows to get a concise IOF log. It can be useful if the IOF log is processed by program. The 39 characters of the header are suppressed giving for instance :

```
LO10       >>> LOG STARTED ON 991130 AT 14:55:52 FOR X7455
S: DS EX
     SH14 X7455.2   EX IOF      SEBAG        Q           H_IOF

S: LOG TERM;
     LO09       <<< LOG TERMINATED FOR X7455
```

3.8 Different JAS Used by Several TDS on Protected Site

Several TDS controlled by SECURACCESS can be protected by different JAS, some TDS working with JAS SYS and other with either JAS BLUE or JAS GREEN.

More generally several TDS working with different JAS can share a file protected by the BEFORE journal only and not cataloged with the JOURNAL=BOTH option.

3.9 GCOS 7 Software Improvement Requests

The following table gives the list of the GCOS 7 European User's Association requests that have been integrated in this Technical Status.

Table 3-1. Software Improvement Requirement Summary (1/2)

PES Requirement identification	Software Improvement Requirement Summary TS 9662
PES #9417_005	Support of up to 99 files in the static ROLLFORWARD (Section 3.1.8 *Journal Management Improvement*).
PES #9444_004	Possibility to specify two-character classes in the Catalog Maintenance Utility (Section 3.1.1 *Catalog Management*).
PES #9611_003	Display of the file usage information retrieved at COBOL open time (Section 3.1.3.4 *File Access Information Availability*).
PES #9648_004	Display of the main characteristics of a file and the RONs using it (Section 3.1.6 *Job Management Improvements*).
PES #9701_001	Subfile deletion on local library after completion of transfer on a remote site (Section 3.1.4 *File Transfer*).
PES #9705_011	FILLIST/VOLLIST performance improvements (VTOC access method design improvement) (Section 3.1.3.3 *File Access Performance Improvement*).
PES #9711_002	Top of Page management improvement (Section 3.1.5.1 *#PAGETOP GCL Variable*).
PES #9751_007	Display of the transition NORMAL USE <-> UNDER USE on the main console. See Section 3.1.7 *Resource Management (ARM)*.

Table 3-2. Software Improvement Requirement Summary (2/2)

Requirement identification	Software Improvement Requirement Summary TS 9764
PES #9737_002	Unified DSL for Data Management Utilities and SORT/MERGE.
PES #9751_003	IOF log New keyword FOR = LINE in the .
PES #9815_001	DISPLAY_OUTPUT of a redirected output gives the origin system and the output owner.
PES #9815_002	A message is printed in the JOR at the beginning of each dynamic file save.
PES #9815_003	A new EXCLUDE keyword in the JCL statement VOLLIST and the GCL command LIST_VOLUME .
PES #9840_007	Printing Messages "DATE" in a JOR at each day change.
PES #1999_015_004	DC PLM = *give the date of PLM for each Load Module displayed.

4. List of Manuals

This Chapter lists the manuals that are valid for GCOS 7-V9 TS 9764.

4.1 General

System

47 A2 23US Rev01	*GCOS 7-V9 System Installation Configuration and Updating Guide*
47 A2 22UG Rev01	*System Overview*
47 A2 27UG Rev01	*GCOS 7-V9 Release Notes*
47 A2 28UG Rev01	*GCOS 7-V9 Evolution Guide*
47 A2 42US Rev02	*LMC User's Guide*
47 A2 48US Rev00	*ASM 7 Introduction*
47 A2 49US Rev03	*EpochBackup 7 User's Guide*
47 A2 51US Rev02	*ASM 7 File Migration Administrator's Guide*
47 A2 36UU Rev04	*Operator Pocket Reference Guide*

Year 2000

47 A2 23UG Rev03	*How to deal with the Year 2000*

4.2 Operating System

Performance and Behavior

47 A2 03US Rev07	*SBR (System Behavior Reporter) User's Guide*
47 A2 04US Rev05	*T.I.L.S. User's Guide*
47 A2 11US Rev04	*ARM User's Guide*
47 A2 15US Rev01	*SBR (System Behavior Reporter) Programmable Interface*

Getting Started

47 A2 20US Rev04	*Getting Started With GCOS 7*
	Book 1: Setting up Your System
47 A2 21US Rev04	*Getting Started With GCOS 7*
	Book 2: Managing Your System
47 A2 22US Rev04	*Getting Started With GCOS 7*
	Book 3: Operating Your System

System Administration and Operation

47 A2 40US Rev00	*AUDIT 7 System Administrator's Manual*
47 A2 54US Rev01	*GCOS 7 System Administrator's Manual*
47 A2 53US Rev02	*GCOS 7 System Operator's Guide*
77 A1 65US Rev01	*DPS 7000/MTxx Operator's Guide*

Interoperability

47 A2 80US Rev02	*OPEN 7 User's Guide*
47 A2 81US Rev02	*OPEN 7 Administrator's Guide*
47 A2 82US Rev02	*OPEN 7 Commands Reference Manual, Volume 1*
47 A2 83US Rev01	*OPEN 7 Commands Reference Manual, Volume 2*
47 A2 84US Rev02	*OPEN 7 Commands Reference Manual, Volume 3*
47 A2 56UU Rev04	*Interoperability Software Installation 7 Administrator's Guide*
47 A2 90US Rev01	*NatStar on GCOS 7*
47 A2 39UT Rev01	*TDS-Web User's Guide*
47 A2 86US Rev00	*DA7 on TCP/IP for PC User's Guide*
47 A2 35UT Rev02	*ESP7 on GCOS 7 User's Guide*
47 A2 87US Rev01	*ESP7 on TCP/IP for PC User's Guide*

Miscellaneous

47 A2 42UU Rev01	*CTSD020 Operator's Guide*
47 A2 55UU Rev05	*GTWriter User's Guide*
47 A2 61UU Rev08	*GCOS 7 Console Messages Directory*
47 A2 62UU Rev01	*CTL User's Guide*
47 A2 63UU Rev04	*CTL UNIX Server User's Guide*
47 A1 65UU Rev01	*CMTS Operating Guide*
47 A2 67UU Rev00	*Operating Exb10E*
77 A1 92UU B Rev00	*DPS 7000/DPS8 CTS, ACS, TCU Operator's Guide*

4.3 Communications

4.3.1 General

39 A2 46DM Rev03	*Simple Generation Guide Using FPG 7*
47 A2 10UC Rev02	*Network Administrative Utilities*
47 A2 32UC A Rev01	*GCOS 7 MCS User's Guide*
47 A2 60UC Rev02	*VCAM-ISO Reference Manual Part 1: Description*
47 A2 61UC Rev02	*VCAM-ISO Reference Manual Part 2: Primitives*
47 A2 62UC Rev02	*VCAM-ISO User's Guide*
47 A2 63UC Rev01	*VCAM-ISO Reference Manual Part 3: Primitives*
47 A2 64UC Rev02	*GCOS 7 XTI User's Guide*
47 A2 68UC Rev01	*ISM-MSC 7 User's Guide*
47 A2 69UC Rev00	*GXTI Named Services Manual*
47 A2 70UC Rev00	*Getting Started with Telecommunications*
47 A2 75UC Rev02	*DSAC User's Guide*
47 A2 76UC Rev01	*AUPI User's Guide*
47 A2 92UC Rev02	*Network Overview and Concepts*
47 A2 93UC Rev02	*Network Generation*
47 A2 94UC Rev02	*Network User's Guide*
47 A2 07EB Rev00	*Network Generation and User Guide Update*
47 A2 29EB Rev00	*Network System Messages and Return Codes GCOS 7*

4.3.2 FCP 7

47 A2 95UC Rev02	*FCP 7 Software Release Bulletin*

4.3.3 MainWay DNS-E V3U2

39 A2 09EB Rev05	*DNS-E System Generation Guide*
39 A2 15EB Rev05	*MainWay Configuration Application Guide*
39 A2 12EB Rev04	*DNS-E NOI Operator Manual*
39 A2 13EB Rev01	*DNS-E Terminal Management*
39 A2 10EB Rev05	*DNS-E NGL Reference Manual*
39 A2 11EB Rev06	*MainWay Administrator's Guide*
39 A2 08EB Rev05	*MainWay Network System Messages & Return Codes*
39 A2 16EB Rev04	*MainWay Logfile Messages*

4.3.4 DNS

39 A4 15DM Rev03	*Datanet Overview*
39 A2 16DM Rev00	*AUPI Reference Manual*
39 A2 26DM Rev04	*OSI/DSA Network System Messages and Return Codes*
39 A4 20DN Rev00	*DNS-V4 Concepts*
39 A2 21DN Rev03	*DNS-V4 Software Release Bulletin*
39 A2 22DN Rev02	*DNS-V4 System Generation*
39 A2 23DN Rev02	*DNS-V4 NGL Reference Manual*
39 A2 24DN A Rev01	*DNS-V4 Terminal Management Reference Manual*
39 A2 25DN Rev02	*DNS-V4 NOI Operator's Guide*
39 A2 26DN A Rev02	*DNS-V4 In/On Line Tests User's Guide*
39 A4 27DN Rev01	*DNS-V4 Documentation Directory*
39 A2 29DN A Rev00	*DNS-V4 Mappers User's Guide*
39 A1 69DN Rev01	*DNS-V4 Datanet 7500*

4.3.5 CNS 7

39 A2 40DM Rev01	*CNS 7-A1 NGL Reference Manual*
39 A2 41DM Rev01	*CNS 7-A1 NOI Operator's Guide*
39 A4 42DM Rev01	*CNS 7-A1 Documentation Directory*
39 A2 43DM Rev01	*CNS 7-A1 Terminal Management Reference Manual*
39 A2 44DM Rev02	*CNS 7-A1 In-Line and On-Line Tests Operator's Guide*
39 A2 93DM Rev03	*CNS 7-A1 Software Release Bulletin*
39 A4 30DN Rev00	*CNS 7-A2 Documentation Directory*
39 A2 31DN A Rev00	*CNS 7-A2 Software Release Bulletin*
39 A2 32DN Rev01	*CNS 7-A2 NGL Reference Manual*
39 A2 33DN Rev00	*CNS 7-A2 Terminal Management*
39 A2 34DN Rev01	*CNS 7-A2 NOI Operator's Guide*
39 A2 35DN Rev01	*CNS 7-A2 IN/ON Line Tests*

4.3.6 Applications

47 A2 11UC Rev01	*Remote Facilities DPS 7 to DPS 6*
47 A2 13UC Rev06	*UFT User's Guide*
47 A2 14UC Rev05	*DJP User's Guide*
47 A2 20UC Rev03	*Microfit 7 User's Guide*

4.3.7 DOF 7

47 A2 80UC Rev06	*DOF 7-PO User's Guide*
47 A2 81UC Rev06	*Structured Records - OMH Commands*
47 A2 82UC Rev07	*Structured Records - OMH Messages*
47 A2 83UC A Rev01	*Structured Records DSAC Commands*
47 A2 84UC Rev01	*DOF 7-SM User's Guide*
47 A2 85UC A Rev00	*Structured Records DSAC Messages*

4.3.8 OSF

39 A2 9933 Rev02	*OSF/SNA File Transfer (UFTF) User's Guide*
39 A2 95DM Rev02	*OSF/SNA PU-T5 Generation*
39 A2 96DM Rev01	*OSF/SNA PU-T2 Generation*
39 A2 97DM Rev01	*OSF/SNA SSC Generation Manual*
39 A2 98DM Rev02	*OSF/SNA System Operation Manual*
39 A2 99DM Rev02	*OSF/NGL Reference Manual*
39 A2 01DN Rev02	*OS/MVS Host Utilities Operating Instructions*
39 A2 02DN Rev02	*OSF/SNA Software Diagnostics Tools*
39 A2 06DN A Rev01	*DPS 7 TDS Connection Guide*
39 A2 14RA Rev04	*NGL Reference Manual*
39 A2 15RA Rev04	*OSF/SNA System Operation Reference Manual*
39 A2 87RA Rev04	*SSC Generation Configuration Instructions*
39 A2 88RA Rev04	*OSF/SNA PU T2 Generation Guide*
39 A2 92RA Rev04	*OSF/SNA PU T5 Generation Guide*
39 A2 93RA Rev03	*Troubleshooting Software Diagnostic Tools*
39 A2 94RA Rev02	*OSF/SNA DPS8-DM4 TP Connection Guide*
39 A2 95RA Rev01	*OSF/SNA DPS8-TP8 Connection Guide*
39 A2 96RA Rev01	*DPS 7 TDS Connection Guide*

39 A2 09RA Rev02	*XCP2 - LU6-2*
40 A2 61CF Rev00	*GCOS DCE Overview*
40 A2 62CF Rev01	*DCE RPC on GCOS 7 Administrator's Guide*
40 A2 63CF Rev00	*DCE RPC on GCOS 7 User's Guide*
40 A2 64CF Rev00	*DCE RPC Ally Administrator Supplement*
40 A2 65CF Rev00	*DCE RPC on GCOS 7 Software Release Bulletin*

4.3.9 DSA

39 A2 8849 Rev03	*DSA Network Administration Guide*
39 A4 9725 Rev02	*DSA Concepts*
39 A2 9799 Rev01	*DSA System Operation*
39 A2 9693 Rev06	*DSA Log File Messages*
39 A2 9807 Rev03	*DSA System Generation*
47 A2 22UC Rev02	*VIDSA 7 Operations*
47 A2 23UC Rev01	*VIDSA 7 Software Release Bulletin*
47 A3 52UC Rev02	*VIDSA 7 Network Management Facilities User's Guide*
47 A3 53UC Rev03	*VIDSA 7 Network Management Facilities Software Release Bulletin*

4.3.10 LFA 7

47 A3 50UC Rev02	*LFA 7 User's Guide*
47 A3 51UC Rev01	*LFA 7 Log File Analyzer Software Release Bulletin*

4.3.11 SINDIA 7

47 A3 56BB Rev02	*SINDIA 7 Programmer's Guide*

4.4 Job Control and IOF

47 A2 10UJ Rev09	*Messages and Return Codes Directory*
47 A2 11UJ Rev04	*JCL Reference Manual*
47 A2 12UJ Rev03	*JCL User's Guide*
47 A2 13UJ Rev03	*JCL Pocket Guide*
47 A2 35UJ Rev00	*Getting Started With IOF*
47 A2 36UJ Rev05	*GCL Programmer's Manual*
47 A2 37UJ Rev00	*IOF Programmer's Manual*
47 A2 38UJ Rev05	*IOF Terminal User's Reference Manual Part 1: Introduction to IOF*
47 A2 39UJ Rev05	*IOF Terminal User's Reference Manual Part 2: GCL Commands*
47 A2 40UJ Rev05	*IOF Terminal User's Reference Manual Part 3: Directives*
47 A2 08UJ Rev07	*IOF Quick Reference Handbook*

4.5 File and Volume Management

47 A2 04UF Rev04	*UFAS-EXTENDED User's Guide*
47 A2 08UF Rev06	*Sort/Merge User's Guide*
47 A2 12UF Rev02	*GAC EXTENDED User's Guide*
47 A2 20UF Rev01	*Mirror Disks User's Guide*
47 A2 30UF Rev03	*Coupled Systems User's Guide*
47 A2 32UF Rev00	*Migration Tool User's Guide*
47 A2 33UF Rev00	*UFAS Batch Booster User's Guide*
47 A2 34UF Rev04	*Data Management Utilities User's Guide*
47 A2 35UF Rev04	*Catalog Management User's Guide*
47 A2 36UF Rev02	*Administering the Storage Manager*
47 A2 37UF Rev05	*File Recovery Facilities User's Guide*
47 A2 38UF Rev02	*MFT User's and Administrator's Guide*
47 A2 17UG Rev00	*Guide to Software Security*

4.6 Program Preparation

47 A2 01UP Rev02	*Library Maintenance Reference Manual*
47 A2 02UP Rev01	*Library Maintenance User's Guide*
47 A2 05UP Rev01	*Text Editor User's Guide*
47 A2 06UP Rev01	*Full Screen Editor User's Guide*
47 A2 10UP Rev04	*LINKER User's Guide*
47 A2 11UP Rev00	*BINDER User's Guide*
47 A2 15UJ Rev04	*FORMS User's Guide*
47 A2 15UP Rev02	*PCF User's Guide*

4.7 Transaction Processing

47 A2 07UT Rev03	*TDS C Programmer's Manual*
47 A2 08UT Rev00	*GTWriter-DPF TCP/IP*
47 A2 11UT B Rev01	*Transactional Intercommunication Using XCP1 Protocol*
47 A2 14UT Rev03	*CPI-C/XCP2 User's Guide*
47 A2 32UT Rev04	*TDS Administrator's Guide*
47 A2 33UT Rev05	*TDS COBOL Programmer’s Guide*
47 A2 34UT Rev00	*GCOS 7/EDIWorks User's Guide*
47 A2 22UT Rev03	*HA Concepts*
47 A2 23UT Rev02	*HA Administrator's Guide*
47 A2 25UT Rev00	*TDS IMAGEWorks Link User's Guide*
47 A2 26UT Rev00	*TDS Concepts*
47 A2 27UT Rev01	*TDS GPL Programmer's Guide*
47 A2 28UT Rev01	*HA Simplified Operator's Handbook*
47 A2 29UT Rev00	*StreamPATH Remote Interfaces and Commands*
47 A2 30UT Rev01	*/HOST 7 (Setting Up and Using)*
47 A2 31UT Rev00	*TDS IMAGEWorks LINK User's Guide (DPX/20)*
47 A2 37UT Rev02	*TDS-TCP/IP User's Guide*

4.8 Database Products

4.8.1 IQS

47 A2 71UD A Rev00	*IQS Quick Tour*
47 A2 73UD Rev00	*IQS End-User's Guide*
47 A2 74UD Rev00	*Getting Started with Query*
47 A2 76UD Rev00	*IQS Advanced User's Guide*
47 A2 77UD Rev00	*IQS Reference Manual Volume 1*
47 A2 78UD B Rev00	*IQS Reference Manual Volume 2*
47 A2 79UD Rev00	*IQS Programmer's Manual*
47 A2 80UD A Rev00	*IQS Administrator's Guide*
47 A2 81UD Rev01	*IQS/TDS User's Guide*
47 A2 82UD Rev00	*IQS Index*
47 A2 70UR Rev00	*IQS-V4 Software Release Bulletin*
47 A2 71UR Rev00	*IQS-V4 Quick Tour*
47 A2 72UR Rev00	*Getting Started With IQS-V4*
47 A2 74UR Rev00	*Getting Started With Query in IQS-V4*
47 A2 75UR Rev03	*IQS-V4 Quick Reference Handbook*
47 A2 77UR Rev03	*IQS-V4 Reference Manual Volume 1*
47 A2 78UR Rev04	*IQS-V4 Reference Manual Volume 2*
47 A2 79UR Rev02	*IQS-V4 Programmer's Guide*
47 A2 80UR Rev02	*IQS-V4 Administrator's Guide*
47 A2 81UR Rev01	*IQS-V4/TDS User's Guide*

4.8.2 Full IDS/II

47 A2 05UD B Rev01	*Full IDS/II Reference Manual, Volume 1*
47 A2 06UD B Rev00	*Full IDS/II Reference Manual, Volume 2*
47 A2 07UD A Rev00	*Full IDS/II User's Guide*
47 A2 10UD Rev00	*Full IDS/II Concepts*

4.8.3 IDS/II

47 A2 11UD Rev00	*IDS/II Reference Manual*
47 A2 12UD Rev00	*IDS/II User's Guide*
47 A2 13UD Rev01	*IDS/II Administrator's Manual*
47 A2 15UD Rev02	*DBREORG: User's Guide*

4.8.4 ORACLE7

47 A2 10UR Rev02	*ORACLE7 Documentation Catalog*
47 A2 11UR Rev03	*ORACLE7 Installation Guide*
47 A2 12UR Rev03	*ORACLE7 Guide to Processors and Utilities*
47 A2 13UR Rev00	*SQL*Net V1 with ORACLE7*
47 A2 14UR Rev03	*ORACLE7/TDS User's Guide*
47 A2 16UR Rev01	*ORACLE7/TDS-HA User's Guide*
47 A2 17UR Rev00	*SQL*Net V2 with ORACLE7*
47 A2 AJ25 Rev01	*SQL*Net UVTI for MS-Windows*

4.8.5 DDA Manager

47 A2 51UR Rev01	*GCOS 7 DDA Manager Administrator's Guide*
47 A2 52UR Rev01	*GCOS 7 DDA Manager SQL Supplement*

4.9 Languages

4.9.1 General

47 A2 34UL Rev07	*GPL System Primitives*
47 A2 35UL Rev02	*GPL Reference Manual*
47 A2 36UL Rev03	*GPL User's Guide*
47 A2 40UL Rev01	*GKS Reference Manual*
47 A2 65UL Rev05	*SDI-GPL Primitives Reference Manual*

4.9.2 COBOL

47 A2 04UL Rev03	*COBOL 85 System Calls*
47 A2 05UL Rev04	*COBOL 85 Reference Manual*
47 A2 06UL Rev05	*COBOL 85 User's Guide*

4.9.3 FORTRAN

47 A2 15UL A Rev02	*FORTRAN 77 Reference Manual*
47 A2 16UL Rev03	*FORTRAN 77 User's Guide*
47 A2 99UL Rev00	*Mathematical Library*

4.9.4 Pascal

47 A2 51UL Rev00	*PASCAL Reference Manual*
47 A2 52UL Rev01	*PASCAL User's Guide*

4.9.5 C

47 A2 60UL Rev05	*C Language User's Guide*
47 A2 64UL Rev03	*C System Primitives*

4.9.6 MACPROC

47 A2 70UL Rev00	*MACPROC Reference Manual*
47 A2 71UL Rev00	*MACPROC User's Guide*

4.10 RDDF 7-V2

47 A2 43US Rev01	*RDDF 7-V2 Concepts*
47 A2 44US Rev03	*RDDF 7-V2 Administrator's Guide*
47 A2 45US Rev00	*RDDF 7-V2 Operator's Guide*

4.11 JAVA

47 A2 38UT Rev00	*JAVA 7 User's Guide*

A. Configuration Limits

The values given below are maximum values.

If you set a lower value using CONFIG, then the CONFIG value becomes the effective limit. See the *GCOS 7 System Installation Configuration and Updating Guide* for the release concerned.

Main Memory on DPS 7000/TA	1 Gbyte on DPS 7000/TAxxC compact models 2 Gbytes on DPS 7000/TAxx High Availability models in bi-system mode
on DPS 7000/MTxx	1 Gbyte on DPS 7000/MT11/MT21/MT31/MT41/MT51/MT61 compact platforms (mono-system) 2 Gbytes on DPS 7000/MT42/MT52/MT62/MT72/MT82, DPS 7000/MT83/MT84/MT86/MT88/MT92/MT96 redundant platforms in bi-system mode
Main Memory on previous platforms	256 Mbytes on DPS 7000/4x5 and Cx0 512 Mbytes on DPS 7000/8xxS 1 Gbyte on DPS 7000/8xx in mono-system, 2 Gbytes in bi-system
Disks	350 disks
Shared Disks	200 disks
Disks using Quotas	200 disks
Resident Disks	10 disks

Communication Processors on DPS 7000/TAxx:	
MainWay	8 on High Availability models in bi-system mode
	4 on compact models
FCP 7	8 on High Availability models in bi-system mode
	4 on compact models
on DPS 7000/MTxx:	
CNP7-II	none on DPS 7000/MTxx redundant platforms
	2 on compact platforms
MainWay	8 on redundant platforms in bi-system mode
	2 on compact platforms
FCP 7	8 on redundant platforms in bi-system mode
	2 on compact platforms
Communication Processors on previous platforms: (Datanets, CpNets, CNP7s)	8
Active Terminals	14000
VCAM Sessions opened	14000
Correspondents (TM, XCP1, XCP2)	10,000
Jobs Executing	254
Jobs Known	9,999
Steps per Job	255
Outputs per Job	254
Steps Sharing a File	250
Scheduling Classes	256
IOF Scheduling Classes	249
Batch/TDS Scheduling Classes	249

Active Tasks	1,000
IOF Users	200
SYS.BKST Files	16
SYS.LIB Files	16
SYS.PVMF Files	16
SYS.TVMF Files	16
SYS.SPOOL Files	10
SYS.OUT Files	20
Assigned Files per System	2048 as standard, or 3200 with Marketing Identifier EFM1, or 6300 with Marketing Identifier EFM2
DEFINE Statements per System	2048 as standard, or 3200 with Marketing Identifier EFM1, or 6300 with Marketing Identifier EFM2
UFAS-IDS/II Buffers per System	32,000
UFAS-IDS/II Buffers per batch step	4,000
UFAS-IDS/II Buffers per TDS	20,000
Opened Shared Files per System	UFAS or IDS/II files: As standard: 1585 With Marketing Identifier EFM1: 2,000 (sharing level of 2) With Marketing Identifier EFM2: 3,200 (sharing level of 2) 600 Queued files
Opened Files per step	500 UFAS or IDS/II files 97 Queued files
Assigned Tape-Cartridge Volumes per System	64

Active Catalogs per System	128
Objects in a Catalog	100,000 if FBO disk 10,000 if VBO disk
Dimensions per System	32
Active TDS applications per System	32 With Marketing Identifier EFM2: 50
Active Commitment Units per system	5,000
Active Commitment Units per TDS	2,048
Declared Files per TDS	512
Opened Files per TDS	500
Opened Files per TDS-HA	200
IDS/II databases per TDS	32
Swapfiles per TDS	32
Before Journal Extents per TDS	4
Simultaneity Level per TDS	250
SMs per TDS	100
Transactions per TDS	2,000
Spawned Transactions per TDS	1,000
Spawned Transactions per Commitment Unit	76
TPRs per TDS	25,200
TPRs per system	40,000

SMs loaded	Standard: 300 With Marketing Identifier EFM1: 320 With Marketing Identifier EFM2: 600
SMs active	Standard: 300 With Marketing Identifier EFM1: 320 With Marketing Identifier EFM2: 600

B. H_NUCLEUS SERs Correspondence

In the following table each column is associated to a GCOS 7 Technical Status, each line gives the corresponding SERs. A line cell value to spaces means that the SER is included in source (“cleaned SER”).

TS 8458 UP25	TS 8560 UP30	TS 9662 UP30	TS 9764 UP20
O4897.02			
O5450.02			
O5900.03	P4306.01		
O6556.02			
O6706.01			
O6847.01			
O7228.01			
O7229.01			
O7385.01			
O7541.01			
O7542.01			
O7567.01 + O3889.01	P3232.01		
O7668.01			
O7819.01 + O8286.01			
O8196.04			
O8272.01			
O8343.02 + P3968.01	P3975.01		
O8373.01			
O8396.02			
O8481.01			
O9664.01			
O8786.01			
O8911.03 + O9473.01	P3442.01		
O9220.01			
O9467.01			

TS 8458 UP25	TS 8560 UP30	TS 9662 UP30	TS 9764 UP20
O9621.01			
O9693.01			
O9912.01			
P0035.01			
P0312.01			
P0384.01			
P0388.01			
P0424.01 + P0503.01			
P0443.02			
P0555.01			
P0836.01			
P0854.01			
P0896.01			
P1030.03			
P1264.01			
P1295.01			
P2046.02			
P2119.01			
P2316.01			
P2345.03	P2336.02		
P2364.01			
P2590.01			
P2842.02	P3393.02		
P3093.01			
P3256.01	P3241.01		
P3362.01	P3362.01		
P3468.01	P3469.01		
P3703.01	P3829.01		
P3968.01 + O8343.02	P4004.02 + P4026.01		
P3969.01	P3969.01		
P4062.01	P4061.01		
P4112.01	P4114.01 + P4116.01	P6828.01 (REF)	P7523.01
P4867.01	P4867.01		
P5066.01 + P5074.01	P3546.02 + P4881.01		
P5567.01	P6006.01		
P5872.01	P5872.01		
P6059.01	P6059.01		

TS 8458 UP25	TS 8560 UP30	TS 9662 UP30	TS 9764 UP20
P6643.01	P6643.01	P6643.01	
	P2354.02		
	P5019.01		
	P5146.01		
	P5150.01		
	P5444.01		
	P5923.02		
	P5950.01		
	P6038.01		
	P6263.01		
	P6709.02	P6737.01	
	P7430.01	P7430.01	P7430.01
	P7433.01	P7433.01	P7433.01

Glossary

A

API
Application Programming Interface.

Applet
A Java program that can run only inside a Web page displayed by a Java-capable browser such as HotJava or Netscape.

Application (Java)
A stand-alone Java program.

ARM
Automatic Resource Manager.

B

Browser
Designates a Web navigation program.

BSR
Basic System Release. Contains the source of the DPS 7000 firmware.

Bytecode
Set of instructions, similar to machine code, that are generated when the Java compiler processes a Java application. The bytecode, unlike machine code, can be executed on any platform and any operating system that has a Java interpreter (Java Virtual Machine).

C

CDP
Customer Dedicated Processor.

CDP1
Name of the domain associated with EPUs.

CDP2
Name of the domain associated with FPUs.

CDP3
Name of the domain associated with GPUs.

CGI
Common Gateway Interface.

CKD
Count Key Data.

Client
A client is an application that interacts with server application(s). Sometimes called **client application**.

Communication services
Communication services is the generic name for the software (middleware) that handles the communication between the client and the server in a client/server environment.

D

DIUF
DSA Installation and Updating Facility.

Domain
A GCOS 7 system running on DPS 7000/TA, is made up of 1 to 4 domains. Each domain represents a type of CPU resource (EPU, FPU, GPU, and IPU) and the functions that have the right to use the resource.

DPS 7000/TA
New DPS 7000/TA platform containing two types of processor: GCOS 7 and OPEN.

DSA
Distributed System Architecture.

E

EPU
Extended Processor Unit (type 1). See also CDP1.

ESP7
Enterprise Server Procedures for GCOS 7.

F

FBO
Fixed Block Organization.

FDDI
Fiber Distributed Data Interface.

FECM
Front End Control Management.

FEPS
Front End Processor Support.

FGF
Firmware Generation Facility.

FPU
Extended Processor Unit (type 2). See also CDP2 and OPENCDP.

FSA
Fixed Sector Architecture.

G

GCL
GCOS 7 Command Language.

GCOS 7 processor
Corresponds to IPU (Instruction Processor Unit) processor.

GKS
Graphic Kernel System.

GIUF
GCOS 7 Installation and Updating Facility.

GPU
Extended Processor Unit (type 3). See also CDP3 and OPENP.

GSF
GCOS 7 Service Facility.

GUI
Graphical User Interface.

H

HTML
Hyper Text Markup Language.

HTTP
Hyper Text Transport Protocol.

I

IPU
Instruction Processor Unit. Standard processor.

J

Java
An object-oriented programming language developed by Sun Microsystems. Modeled on C++, the Java language is designed to be small, simple, and portable across hardware platforms and operating systems.

Java Script
Field in an HTML document used by an application to insert variables.

Java Virtual Machine
The Java interpreter, which executes Java bytecodes.

L

LM
Load Module.

LMC
Large Memory Cache.

M

MI
Marketing Identifier.

Method
Functions defined within a class that operate on instances of those classes.

N

NatStar 7
NatStar 7 is the Bull product that consists of NatStar with GCOS 7 extensions. These extensions provide: code generation for GCOS 7, and a GCOS 7 implementation of the NatStar Communication Services middleware. NatStar is a toolset that supports visually oriented application development. NatStar Communication Services is the name used to refer to the entire collection of modules that make up the RPC, runtime, and communication support for client/server applications.

O

OCL
Operator Command Language.

OLTD
Online Test and Diagnostic Facility.

OPENCDP
A domain that exists only on DPS 7000/TA. The OPEN7_F1 function is connected to it (in configuration B).

OPENP
A domain that exists only on DPS 7000/TA. Only the function OPEN7 can run on it.

OPEN processor
General purpose OPEN 7 processor.

P

Package
Java term for a group of related classes and interfaces. Packages enable modular groups of classes to be available only if they are needed and eliminate potential conflicts between class names in different groups of classes.

R

RPC
Remote Procedure Call.

Remote Method Invocation (RMI)
Object world's equivalent of Remote Procedure Calls (RPCs). RMI enables the creation of distributed Java-to-Java applications, in which the methods of Java objects can be invoked from other Java applications, even on different platforms.

S

SDI
Standard Development Interfaces.

Server
A server is an application that interacts with clients. Sometimes called **server application**. A server executes the server portion of a client/server application.

SM
Sharable Module.

T

TA
Twin Architecture. An architecture based on the two processor types: GCOS 7 and OPEN.

TCP/IP
Transmission Control Protocol/Internet Protocol.

TDF
Test and Diagnostic Facility.

TDS
Transaction Driven Subsystem, the transactional product of GCOS 7.

TPR
Transaction Processing Routine, The application program of a TDS.

U

URL
Uniform Resource Locator. The address of a resource anywhere on the Web. It is composed of protocol name, server address, and resource name.

V

VBO
Variable Block Organization.

VCAM
Virtual Communication Access Method in GCOS 7.

W

WEB
Also called World Wide Web or W3.

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